

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
22 May 2003 (22.05.2003)

PCT

(10) International Publication Number
WO 03/042870 A1

(51) International Patent Classification⁷: **G06F 17/30**

(21) International Application Number: PCT/KR02/02090

(22) International Filing Date:
11 November 2002 (11.11.2002)

(25) Filing Language: Korean

(26) Publication Language: English

(30) Priority Data:
2001/70208 12 November 2001 (12.11.2001) KR

(71) Applicant (for all designated States except US): **INEED CO., LTD** [KR/KR]; 9F Olympia Centre, 828-10, Yoksam-dong, Kangnam-gu, 135-080 Seoul (KR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **KIM, Se-Jin** [KR/KR]; 4F Lasse Building, 1042-5 Sadang-dong,

Dongjak-gu, 156-827 Seoul (KR). **LEE, Chang-Yeob** [KR/KR]; 215-704, Maewha apt., Yatap-dong, Bundang-gu, Seoungnam, 463-835 Gyeonggi-do (KR). **LEE, Seung-Jun** [KR/KR]; 23-104 AID apt., Samsung-dong, Kangnam-gu, 135-868 Seoul (KR).

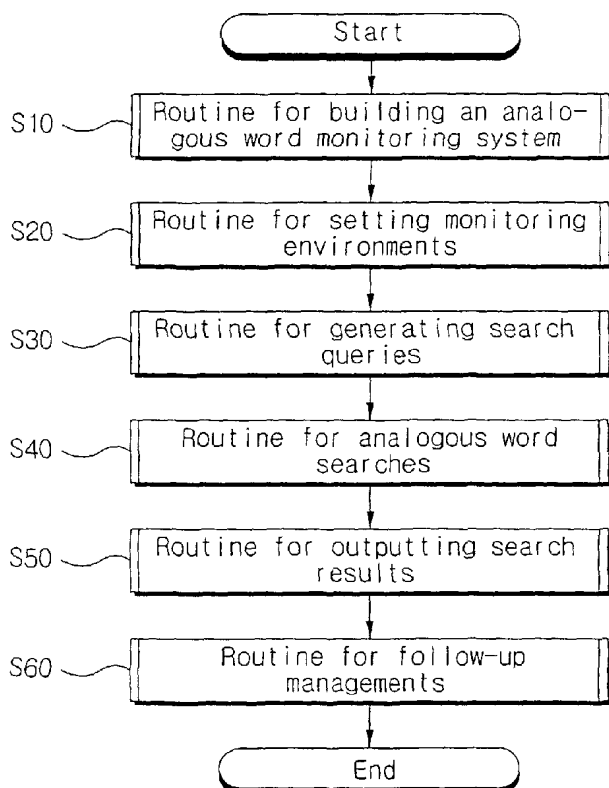
(74) Agent: **YOON, Eui-Seoup**; Yoones & CO, 3F Namdo bldg., 823-24 Yoksam-dong, Kangnam-gu, 135-080 Seoul (KR).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),

[Continued on next page]

(54) Title: FOR NETWORK-BASED SEARCH SERVICE USING RESEMBLANT WORDS AND METHOD THEREOF



(57) Abstract: Disclosed contents relate to a network-based analogous word search technology application system and method, which converts the Korean language portions of a database managed by an administrator into the English letter forms based on the linguistic characteristics and builds separate database fields therefor, executes searches based on a search query of search terms substituted for respective phonemes in consideration of linguistic characteristics according to a user's search request, a search query searching for objects maintaining the arrangement of remaining characters in a state that partial phonemes are excluded from entire phonemes, a search query for searching for terms having less phonemes than a search term inputted by a user, and the like, and searches for in a corresponding database and provides characters analogous to the search term inputted by a user to the user in order from the most analogous extent.

WO 03/042870 A1



Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK,
TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

— before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments

*For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.*

APPLICATION SYSTEM FOR NETWORK-BASED SEARCH SERVICE USING RESEMBLANT WORDS AND METHOD THEREOF

TECHNICAL FIELD

5 The present invention relates to an analogous word search system.

 More particularly, the present invention relates to network-based
analogous word search technology application system and method
capable of carrying out trademark-related monitoring and managements
and building a user-friendly search engine by applying an analogous word
10 search technology to a system performing integrated trademark
managements online or to a general internet search engine.

BACKGROUND ART

 In general, the analogous word search technology is a technology
15 being applied to trademark monitoring for a few years, which was
developed in a simple level based on the English language by
NameProtect, Inc. in the United States of America, and, in Korea, such a
technology was developed by Zoom Technology, Inc. in a slightly different
way with the characteristics of the consonants and vowels of the Korean
20 alphabet, and has been applied for specific services of trademark
monitoring only since year 2001.

 However, as can be seen in illustrations of the above application,
the technology has been exclusively limited to the trademark monitoring
in its application so it has not shown systematic monitoring results
25 correctly for domain names or business names in addition to trademarks,
and the technology has not been applied to a system capable of integrally
managing trademark filings, expenses, procedures, important dates
checks-up, and so on, to be systematically used, so the corporations or
individuals having lots of trademarks have suffered lots of inconvenience
30 in using the technology due to its piecemeal services.

 Further, illustrations are hardly found that the above analogous
word search engine is applied to internet search engines being currently
used a lot online. Therefore, in case that a user searches for words like

foreign languages or jargon the user does not know precisely, the user inputs analogous words as search terms several times to search for the words. If the user can not find the words during the searches, the user uses different search engines to repeat such searches. Therefore, there
5 exists a problem that it is very difficult to search for precise information at once.

In the meantime, the existing search engine technology stores words analogous in meaning in a dictionary-like thesaurus manner of manual job format or automated job format in use of a statistical method,
10 and uses a search method that calls out words analogous to search terms in case that there are the analogous words in the thesaurus and uses the analogous words for searches.

However, the above thesaurus manner, when done in the manual job by individuals, has a lack of consistency, and the desires and thoughts
15 of thesaurus composers and searchers are different, so that it has a high possibility of unintended results. Further, it is difficult to construct a precise thesaurus even though the thesaurus including all analogous words in pronunciation is constructed over lots of review and work times with respect to one search term, so that there exists a limit for human
20 beings.

Further, such a manual job should be continuously done even in case that data is incessantly updated, but, likewise, even in case of which difficulties exist in all aspects of consistency, accuracy, and efficiency as stated above. Of all things, it is difficult to obtain a similarity degree
25 expressible in numeric values, so there exists a problem that it is difficult for a user to easily grasp the right results in case that lots of results come out.

The thesaurus configuration format of statistical method is an appropriate scheme in finding out analogous words in meaning, so there
30 exists a basic limit in searching for analogous words in pronunciation.

Further, Such a statistical method is one constructed based on the major premise that analogous search terms can be found best in occasions collected in statistics in a user's search form. In such

occasions, results reliable to a certain extent can be obtained even though there exists somewhat errors with respect to a part of search terms frequently searched for, but a basic limitation exists that the such a reliable thesaurus is not constructed with respect to most of the other search terms.

DISCLOSURE OF THE INVENTION

In order to solve the above problems, it is an object of the present invention to provide network-based analogous word search technology application system and method capable of, in a system performing integrated trademark managements, monitoring trademarks to early grasp filings and publications of trademarks similar to specific trademarks a user holds as well as monitoring domain names and business names closely related to trademark infringements, dealing with reactions or transactions on monitoring results integrally, and managing systematically the transaction results.

It is another object of the present invention to provide network-based analogous word search technology application system and method capable of searching at once web sites or web documents including words analogous to search terms at once, that is, without several times inputs, on general internet search engines, even when a user has incorrect words instead of correct words or similar pronunciations.

In order to achieve the above objects, a network-based analogous word search technology application system according to the present invention comprises a communication network for connecting plural undefined communication lines; plural user computers for outputting trademark monitoring request data to external through analogous word searches inputted by a user communication-connected with the external through the communication network, inputting search result data from the external based on the analogous word searches for trademarks the user holds, outputting warning notice authorization and legal action authorization data requested and inputted by the user who has confirmed the search result data to the external, and inputting the transaction result

data based on the transaction authorization request of the user from the external; a server computer for transliterating a trademark database thereof from other languages to English to build a database as well as simultaneously build basic programs necessary for search and result
5 outputs, obtaining and storing fundamental monitoring data extracted from trademark data in a user's management program where the user holds the trademark data based on the information of the user inputted from the user computer communication-connected through the communication network, setting monitoring environments by entire and
10 detailed trademarks, and defining search queries by level based on the fundamental monitoring data, simultaneously obtaining nonuse words and primary key words, deciding the kinds of the fundamental monitoring data and the search terms of primary key words as three kinds of English, other languages, and other languages/English-combined to carry out
15 depending on a search criteria classifications, outputting analogous word search result data to the user computer based on a request of a user, requesting transaction authorizations to an associate office with which a user deals according to requests for the warning notice issue and legal action authorizations of the user checking the search results, and storing
20 and simultaneously outputting transaction result data of the associate office to the user computer; and an associate office computer for inputting from the server computer related data based on the requests of the transaction authorizations from the user holding specific trademarks, performing the corresponding transactions, and outputting to the server
25 computer result data based on the transaction authorizations.

Further, another network-based analogous word search technology application system according to the present invention comprises a communication network for connecting plural undefined communication lines, and performing data communications therebetween;
30 a user computer for externally outputting analogous word search request data inputted by a user communication-connected with external through the communication network, and externally inputting search result data obtained from general searches or analogous word searches based on

search terms inputted by a user; and a server computer for other languages/English-transliterating('other languages/English-transliterate' is a new word meaning a process to transliterate other language into English; this neologism is frequently used in this document to express the process.) a database for websites and web documents information it holds to build a database therefor as well as build basic programs necessary for searches and result outputs simultaneously, performing on general search engines searches for specific search terms according to specific search terms and general search execution requests inputted from the user computer communication-connected through the communication network to obtain search results, outputting the results to the corresponding user computer, or grasping the number of phonemes of search terms inputted by a user and obtaining search queries for analogous word searches based on corresponding search term data according to specific search terms and analogous word search execution requests inputted from the user computer, classifying the kinds of search terms into English or other languages, performing the analogous searches based on corresponding search criteria classifications, and outputting an analogous word search result to the user computer based on the order of similarity degrees or popularity degrees.

Further, a network-based analogous word search technology application method according to the present invention comprises steps of (1) other languages/English-transliterating a trademark database, building separate fields into a database, and building basic programs necessary for searches and result outputs in a server computer; (2) generating a database comprising trademark data a user holds based on information inputted from a user computer communication-connected through a communication network, storing the trademark data as fundamental monitoring data for management programs, and setting monitoring environments by entire or detailed trademarks, in the server computer; (3) defining by levels search queries for respective Substitution search, Blank search, Partial reverse search, and Reverse search based on the fundamental monitoring data, and generating the search queries with

reference to nonuse words and primary key words; (4) deciding the kinds of the fundamental monitoring data and primary key word search terms as the three kinds of English, other languages and English/other languages, performing the Exact match search, Key word search, Blank search, Substitution search, Partial reverse search, and Reverse search based on corresponding search criteria classifications at the same time, storing the search results in a separate temporary table together with index keys and related information or data itself, and defining the similarity degrees based on a similarity degree decision standard set in advance, in the server computer; (5) outputting to the corresponding user computer statistics pages, entire results pages, and detailed results pages based on the analogous search results according to the requests of the user; and (6) requesting the executions of authorized transactions to an associate office computer of the corresponding user based on the requests for authorized warning notice issue and legal action transactions of the user verifying search results, storing transaction results on the authorized transactions inputted from the corresponding associate office computer, and outputting the transaction result data to the user computer based on the user's requests, in the server computer.

Further, another network-based analogous word search technology application method according to the present invention comprises the steps of (A) other languages/English-transliterating a database for web sites and web documents information to build separate fields in the database, and building basic programs necessary for search and result outputs; (B) verifying whether specific search terms are inputted from a specific user computer communication-connected through a communication network and general searches or analogous word search executions are requested based on the corresponding search terms; (C) performing, in the server computer, the general searches the general search engines execute with respect to specific search terms based on the requests of the user computer, and generating search results; (D) grasping, in the server computer, the number of phonemes of the search terms the user inputs based on the requests of the user

computer which selects the views of the analogous word search results, generating the respective search queries for a Substitution search, Blank search, Partial reverse search, and Reverse search based on search term data the user inputs, dividing the kinds of search terms into English and other languages, performing the Blank search, Substitution search, Partial reverse search, and Reverse search based on corresponding search criteria classifications at the same time, storing the search results in a temporary table together with query values, and defining similarity degrees based on the similarity degree decision standard set in advance; and (E) outputting, in the server computer, to the user computer the analogous word search results based on the order of similarity degrees or popularity degrees which is requested by the user computer.

BRIEF DESCRIPTION OF THE DRAWINGS

The above objects and other features of the present invention will become more apparent by describing in detail preferred embodiments thereof with reference to the attached drawings, in which:

Fig. 1 is a block diagram for schematically showing a structure of a network-based analogous word search technology application system according to an embodiment of the present invention;

Fig. 2 is a block diagram for showing a structure of the server computer in detail;

Fig. 3 is a block diagram for schematically showing a network-based analogous word search technology application system according to another embodiment of the present invention;

Fig. 4 is a block diagram for showing a structure of the server computer of Fig. 3;

Fig. 5 is a flow chart for showing an operation process for a network-based analogous word search technology application method according to an embodiment of the present invention;

Fig. 6 to Fig. 11 are flow charts for showing in detail the operation processes of the respective subroutines of Fig. 3; and

Fig. 12 is a flow chart for showing in detail an operation process for

a network-based analogous word search technology application method according to another embodiment of the present invention.

BEST MODE FOR CARRYING OUT THE INVENTION

5 Hereinafter, the network-based analogous word search technology application system and method are described in detail with reference to the accompanying drawings.

Fig. 1 is a block diagram for schematically showing a structure of a network-based analogous word search technology application system according to an embodiment of the present invention.

10 As shown in Fig. 1, a communication network 10 is the communication network for wire/wireless internet and so on, and connects communication lines amongst a user computer 20, a server computer 30, an associate office computer 40, and a domain name institution computer 50, which are later described, to perform data communications therebetween.

The user computer 40 outputs trademark monitoring request data to the server computer 30 through analogous word searches inputted by a user communication-connected with the server computer 30 through the communication network 10, inputs from the server computer 30 search result data based on the analogous word searches for trademarks the user holds, outputs to the server computer 30 warning notice issue authorization and legal action transaction authorization request data inputted by the user who has confirmed the search result data, and inputs from the server computer 30 the transaction result data based on the transaction authorization request of the user.

20 The server computer 30 transliterates a trademark database(including a business name database) thereof from other languages to English to build a database as well as simultaneously build basic programs necessary for search and result outputs, obtains and stores fundamental monitoring data extracted from trademark data in a user's management program where the user holds the trademark data based on the information of the user inputted from the user computer 20

communication-connected through the communication network 10, sets monitoring environments by entire or detailed trademarks, and defines search queries for Substitution search, Blank search, Partial reverse search, and Reverse search by level based on the fundamental monitoring data, and simultaneously obtains nonuse words and primary key words.

Further, the server computer 30 finds out the features of the fundamental monitoring data, search terms and primary key words by three kinds such as English, other languages and English/other languages, carries out Exact match search, Key word search, Blank search, Substitution search, Partial reverse search, and Reverse search depending on a search criteria classification of trademarks, business names, and domain names, and outputs analogous word search result data to the user computer 20 based on a request of a user. If the user computer 20 checking the search results inputs the request data for the warning notice issue authorization, legal action authorization, and the like, the server computer 30 requests a corresponding transaction authorization to the computer 40 of a specific associate office with which the user deals, and stores and simultaneously outputs to the user computer 20 which requested the transaction authorization transaction result data based on the transaction authorization inputted from the associate office computer 40.

At this time, the above search levels are as follows:

Level 1: search level in the most analogous range(primarily in Exact match search and Key word match)

Level 2: search in a range of high reliability in similarity degree(Exact match and Key word match searches & Blank and Substitution searches in a limited range)

Level 3: analogous search in a range of considerable reliability to be recommended to users(Exact word match, Key word match, Blank, Substitution, and Reverse searches)

Level 4: level in which lots of results can be seen over the widest review(Exact match, Key word match, Blank and Substitution of a wide

range, Partial reverse, and Reverse search)

The associate office computer 40 inputs from the server computer 30 related data based on the requests of the transaction authorizations such as the warning notice issue authorization, legal action authorization, and the like, from a user holding specific trademarks, performs the corresponding transactions, and outputs to the server computer 30 result data based on the transaction authorizations.

The domain name institution computer 50, if a search request is inputted from the server computer 30 to verify whether domain names have been registered with respect to specific trademark data, searches information on domain names currently registered, and outputs the search results to the server computer 30.

Fig. 2 is a block diagram for showing in detail a structure of the server computer 30 shown in Fig. 1.

As shown in Fig. 2, a data input unit 32 outputs to a main controller 34 basic programs necessary for search and result outputs related to analogous word searches and trademark and business name data periodically updated by an administrator of the server computer 30.

The main controller 34 controls the storage of the basic programs necessary for search and result outputs and trademark and business name data inputted through the data input unit 32; the other languages/English transliteration of a trademark database it holds; the generation of trademark data a user holds based on information on the user communication-connected; the monitoring environment settings by entire and detailed trademarks and the definitions of search queries for Substitution search, Blank search, Partial reverse search, and Reverse search based on fundamental monitoring data; the generation of nonuse words and primary key words; the executions of Exact match search, Key word search, Blank search, Substitution search, Partial reverse search, and Reverse search based on the search criteria classifications of trademarks, business names, and domain names by deciding the search term kinds of the fundamental monitoring data and primary key words as the three kinds of English, other languages and English/other languages;

the outputs of analogous word search result data to the user computer 20; the outputs of data necessary to perform authorized transactions to the specific associate office computer 40 based on the transactions authorized by users; and the storage of the result data of the authorized transactions inputted from the corresponding associate office computer 40, and the outputs of the result data of the authorized transactions inputted from the corresponding associate office computer 40 to the user computer 20.

The database 36 stores trademark and business name data inputted through the data input unit 32 based on the controls of the main controller 34, trademark data other languages/English-transliterated through the main controller 34, and authorized transaction result data inputted from the associate office computer 40.

The communication controller 38 inputs analogous word search request data with the user computer 20 communication-connected through the communication network 10 based on the controls of the main controller 34, outputs search result data, inputs authorized transaction request data, outputs result data based on an authorized transaction, communication-connects to the domain name institution computer 50 according to the controls of the main controller 34 to perform data inputs and outputs with respect to domain name searches, and inputs and outputs data related to an authorized transaction with the corresponding associate office computer 40 based on the transaction authorized by a user.

Fig. 3 is a block diagram for schematically showing a structure of a network-based analogous word search technology application system according to another embodiment of the present invention, and is a view for explaining illustrations being used in general search engine sites in addition to the analogous word search employed in the sites carrying out integrated trademark managements as in the above embodiment.

As shown in Fig. 3, the communication network 100 is the communication network such as wire/wireless internet and the like, and connects communication lines between a user computer 200 and a server

computer 300 to perform data communications therebetween.

The user computer 200 outputs to the server computer 300 analogous word search request data inputted by a user communication-connected with the server computer 300 through the communication
5 network 100, and inputs from the server computer 300 search result data obtained from general searches or analogous word searches based on search terms inputted by a user.

The server computer 300 other languages/English-transliterates a database for websites and web documents information it holds to build a
10 database therefor as well as build basic programs necessary for searches and result outputs simultaneously, performs on general search engines searches for specific search terms according to general search execution requests inputted from the user computer 200 communication-connected through the communication network 100, obtains search results, and
15 outputs the specific search terms from the user and the search result to the corresponding user computer 200.

Further, the server computer 300 grasps the number of phonemes of search terms inputted by a user according to specific search terms and a search execution request inputted from the user computer 200, obtains
20 search queries for a Substitution search, Blank search, Partial reverse search, and Reverse search based on corresponding search term data, classifies the kinds of search terms into English or other languages and performs the Blank search, Substitution search, Partial reverse search, and Reverse search based on corresponding search criteria
25 classifications, and outputs an analogous word search result to the user computer 200 based on the order of similarity degrees or popularity degrees.

At this time, the similarity degree is taken in the order of the Key word match search, Substitution match search, Blank match search,
30 Reverse search, and Partial reverse search while the server computer 300 is taking the most possible percentage lower and lower, assuming that the Exact match is one hundred percent, and calculating a difference with respect to the number of phonemes from basic search terms. The

levels of similarity degrees are taken in the manner that the larger the difference becomes, the less the score is marked.

Further, the server computer 300 other languages/English-transliterates a database of information on web sites and web documents it holds. At this time, in case that the language is using the English alphabet, the process transliterating the language into English is omitted.

Fig. 4 is a block diagram for showing in detail a structure of the server computer 300 of Fig. 3.

As shown in Fig. 4, a data input unit 310 outputs to a main controller 320 basic programs necessary for searches and output results related to analogous word searches inputted by an administrator of the server computer 300.

The main controller 320 controls the storage of basic programs necessary for searches and output results inputted through the data input unit 310, the other languages/English transliteration of information on websites and web documents it holds, the general search executions according to specific search terms and execution requests for general searches inputted from the user computer 200 communication-connected, the generations of search queries for substitution search, blank search, partial reverse search, and reverse search based on search term data inputted by a user according to specific word and analogous word search execution requests inputted from the user computer 200, the executions for Blank search, Substitution search, Partial reverse search, and Reverse search based on corresponding search criteria classifications by classifying the kinds of search terms into other languages or English, and the outputs of analogous word searches based on the order of similarity degrees or popularity degrees that a user selects.

A database 330 stores information on web sites and web documents inputted through the data input unit 310 according to the controls of the main controller 320, and stores web site and web document data other languages/English-transliterated in the main controller 320.

A communication controller 340 inputs search request data for

general searches and analogous word searches, and outputs search result data from and to the user computer 200 communication-connected through the communication network 100 according to the controls of the main controller 320.

5 At this time, search methods may be as follows by the kind of search terms performed in the embodiments of the network-based analogous search systems according to the present invention:

- Occasions where search terms are inputted in other languages only.

10 Exact match search – other languages database searches in other languages search terms

 Key word search – other languages database searches in other languages search terms

15 Blank character search – other languages/English-transliterated database searches in other languages/English-transliterated search terms, and English database searches in other languages/English-transliterated search terms

20 Substitution character search - other languages/English-transliterated database searches in other languages/English-transliterated substitution terms, and English database searches in other languages/English-transliterated substitution terms

 Partial reverse search - other languages/English-transliterated database searches in other languages/English-transliterated search terms

25 Reverse search - other languages/English-transliterated database search in other languages/English-transliterated search terms

- Occasions where search terms are inputted in English only.

 Exact match search - English database searches in English search terms

30 Key word search - English database searches in English search terms

 Blank character search - English database searches in English search terms, and other languages/English-transliterated database searches in English search terms

Substitution character search - English database searches in English substitution terms, and other languages/English-transliterated database search in English substitution terms

Partial reverse search - English database search in English search terms

Reverse search - English database searches in English search terms

- Occasions where other languages and English trademarks are inputted.

Exact match search – other languages database searches in other languages search terms, and English database searches in English search terms

Key word search - other languages database searches in Korean search terms, and English database searches in English search terms

Blank character search - other languages/English-transliterated database searches in other languages/English-transliterated search terms, and English database searches in English search terms

Substitution character search - other languages/English-transliterated database searches in other languages/English-transliterated substitution terms, and English database searches in English substitution terms

Partial reverse search - other languages/English-transliterated database searches in other languages/English-transliterated search terms, and English database search in English search terms

Reverse search - other languages/English-transliterated database searches in other languages/English-transliterated search terms, and English database searches in English search terms

Next, the embodiments of network-based analogous word search technology application methods for the above structures according to the present invention are described in detail with respect to Fig. 5 to Fig. 17.

Fig. 5 to Fig. 11 are flow charts for showing in detail an operation process for a network-based analogous word search application method according to an embodiment of the present invention(in case that the

method is applied in a system performing integrated trademark managements).

First, the server computer 30 other languages/English-transliterates a trademark database and builds a separate fields into a database, and, at the same time, stores in the database basic programs
5 necessary for searches and result outputs(S10).

For a detailed description on the above, the server computer 30 transliterates, following a separate table, other language portions of other language trademarks and other languages/English-combined trademarks
10 into English, removes special characters such as #, &, and so forth within trademark data(S11), and stores the other languages/English-transliterated result data into a separate field of a database(S12).

Further, the server computer 30 builds into a database programs for generations of search queries necessary for analogous word searches
15 and search executions(S13).

Thereafter, the server computer 30 decides basic search levels and changeable search levels to be fixed based on the number of phonemes of a trademark a user holds and define search levels by the number of phonemes of search terms(S14), and builds output programs
20 for the user interface and navigation structures to be outputted to the user computer 20(S15).

After building an analogous word monitoring system through the above step S10, the server computer 30 generates from the database trademark data the user holds based on information inputted from the
25 user computer 20 communication-connected through the communication network 10, stores the trademark data as fundamental monitoring data for management programs, and sets monitoring environments of entire or detailed trademarks(S20).

For a detailed description on the above, the server computer 30 reads in the basic personal history information of the user based on the users information inputted from the communication-connected specific
30 user computer 20 and generates trademark data the specific user holds(S21), and stores the trademark data as fundamental monitoring

data for management programs(S22).

Further, the server computer 30 checks a monitoring target(published trademark database set as default) basically set with respect to the entire trademarks the user holds, changes a monitoring level(level 3 set as default), verifies the changes of nonuse words or nonuse applicant names(the applicant's name of user's own set as nonuse applicant names in default so that their own filed trademarks are excluded from the monitoring target), and sets monitoring environments, based on the trademark monitoring condition of entire trademark the user decides(S23).

After setting the monitoring environments based on the trademark monitoring condition of entire trademarks, the server computer 30 verifies the monitoring targets, monitoring levels, the kinds of nonuse words, and primary key words by trademark cases the user holds, and sets the monitoring environments, based on the trademark monitoring condition of detailed trademarks the user decides(S24).

At this time, in the above steps S23 and S24, the server computer 30 verifies whether monitoring criteria are included for domain names and business names in addition to the trademarks described above with respect to the trademarks the user holds, and can set the monitoring environments for domain names and business names based on the trademark monitoring condition of entire trademark the trademark monitoring condition of detailed trademarks.

Now, after setting the monitoring environments through the above step S20, the server computer 30, considering nonuse words and primary key words, defines by levels search queries for respective Substitution search, Blank search, Partial reverse search, and Reverse search based on fundamental monitoring data, and generates the search queries(S30).

For a detailed description, the server computer 30 performs the similar consonant substitutions(Q and K, and so on) of the basic monitoring trademarks(based on other languages/English-transliterated other languages in case of other languages or other languages/English-combined terms, and based on English trademarks in case of English

trademarks) according to trademark monitoring environments set in the step S20, similar vowel substitutions(O and U, and so on), substitutions of other languages/English-transliterated other languages into simple English words in case that fundamental words such as abbreviated English alphabets or number expressions exist in the other languages/English-transliterated other languages(케이(for example, written as the English sound of 'K' in Korean) and K, 퍼스트(for example, written as the English sound of 'first' in Korean) and 1st, and so on), and substitutions of words(꽃(for example, the Korean vocabulary which have the same meaning of 'flower') and flower, and so on) basically convertible between other languages and English in meaning in order to generate substitution search queries for searches(S31).

After the generation of the substitution search queries, the server computer 30 removes each phoneme one by one from the basic monitoring trademarks(based on other languages/English-converted other languages in case of other languages or other languages/English-combined terms, and based on English trademarks in case of English trademarks) and performs an "AND" search the arrangements of the remaining phonemes, and generates a Blank search query in order to perform a search for phoneme blanks(S32). For example, in case of 'smile', a Blank search query is generated to perform an search in a range of a trademark database having phonemes of a range from -1 to +2 with reference to the total number of phonemes(5 phonemes) in order for the order of the respective phonemes with respect to s AND ile, sm AND le, smi AND e, and smil not to be changed.

After the generation of the Blank search query, the server computer 30 generates a Partial reverse search query in order to obtain a pattern-matched result within the matching range of 60% to 100% in a state that maintains the arrangements of phonemes(S33). In this case, the results that can be obtained from a Reverse search query are all included therein. If some results having other phonemes within the array of the phonemes of pattern-matched results are removed, the remains will be the same results as can be obtained in the Reverse search. This is the

alternate way to perform Reverse search described below.

After the generation of the Partial reverse search, the server computer 30 generates a Reverse search query to reversely perform a key word search making basic monitoring trademarks key words and the trademark database a search pool.(search of other languages/English-transliterated other languages database to other languages/English-transliterated trademarks in case that basic trademarks are in other languages or other languages/English-combined words, and search of English database in case that fundamental trademarks are in English)(S34).

At this time, the reason for performing a Partial reverse search in advance before performing the Reverse search in the steps S33 and S34 is that there is a serious problem in that the expected search speed without the alternate way is too low in case of searching all the components in the other languages/English-transliterated database directly to other languages/English-transliterated search terms and then searching all the components in the English database directly to other languages/English-transliterated search terms.

After the generation of the Reverse search query, the server computer 30 grasps the number of phonemes of primary key words in case that a corresponding user sets primary key words in the step S20 and generates search queries of the steps S31 to S34(S35).

After the generations of the search queries through the above step S30, the server computer 30 decides the kinds of fundamental monitoring data and primary key word search terms as the three kinds of English, other languages and English/other languages, performs Exact match search, Key word search, Blank search, Substitution search, Partial reverse search, and Reverse search based on corresponding search criteria classifications at the same time, stores the search results in a temporary table together with index keys and related information or data itself, and defines the similarity degrees based on a similarity degree decision standard set in advance(S40).

For a detailed description, if the generation of a search query for

the basic monitoring trademarks through the step S30 is completed, the server computer 30 verifies the number of phonemes for the monitoring trademarks(S41).

After the verification of the number of phonemes for the basic monitoring trademarks, the server computer 30 verifies the search environment setting content such as search levels, nonuse words, nonuse applicant names, primary key words, and so on, which are set by a user for corresponding trademarks(S42), verifies search criteria based on the kinds of the corresponding search terms while checking whether the basic monitoring trademarks and the search terms of primary key words are in other languages, other languages/English-combined words, English, or other languages/English-separately existing trademarks(S43).

In case that a other language portion is included in search terms or primary key words of basic trademarks in the step S43, the server computer 30 other languages/English-transliterates and temporarily stores the search terms(S44), and performs Exact match search, Key word search, Substitution search, Blank search, Partial reverse search, and Reverse search based on the search queries set in the step S30(S45).

Further, the server computer 30 stores the results of the search execution of the step S45 in a separate temporary table together with index keys and related information or data(S46), and gives similarity degree marks based on a format set in advance in consideration of similarity degrees by search kinds and similarity degrees based on the difference the number of phonemes of the search results from that of the basic monitoring trademarks in the temporarily stored table(S47).

Thereafter, the server computer 30 selectively applies search queries suitable for domain name searches out of search queries to be performed in the step S45 only in case that a user additionally selects the domain names in additional monitoring area in the step S20, perform searches through a meta search engine designed compatible with a domain name search engine provided by domain name institutions, and stores the search results in a temporary table together with index keys

and related information or data(S48).

Further, the server computer 30 applies the search queries used in the step S45 only in case that a user additionally selects business names as additional monitoring area in the step S20, performs searches through
5 a business name database built therein, and stores search results together with index keys and related information or data(S49).

As stated above, after performing analogous searches for trademark monitoring through the step S40, the server computer 30 outputs to the corresponding user computer 20 statistics pages, entire
10 results pages, or detailed results pages based on the analogous search results according to the requests of the user(S50).

For a detailed description, after performing analogous word searches for the basic monitoring trademarks through the step S40, the server computer 30 configures statistics pages of the number of searches
15 by search method to be firstly viewed when a corresponding user clicks the basic monitoring trademarks(S51).

Further, the server computer 30 configures pages of entire search results in the order of similarity degrees viewed in case that a user clicks to view the entire search results(S52).

Further, the server computer 30 configures detailed information pages by trademarks viewed in case that a user clicks to view detailed information on respective results of the monitoring trademarks
20 searched(S53).

After the server computer 30 configures output pages based on analogous word searches with respect to the basic monitoring trademarks,
25 the server computer 30 decides whether an output of monitoring result data is requested from a specific user computer 20 requesting trademark monitoring(S54), and, if the output of the monitoring result data is requested from the user computer 20, the server computer 20 outputs to
30 the corresponding user computer 20 any of statistics pages of the number of results grouped by each search method, entire search result pages, and detailed information pages by trademarks that the user requests(S55).

Lastly, after outputting analogous search results to the

corresponding user computer 20 through the step S50, the server computer 30 requests the executions of authorized businesses to the associate office computer 40 of the corresponding user based on the requests for authorized warning notice issue and legal action transactions of the user verifying search results, stores transaction results on the authorized transactions inputted from the corresponding associate office computer 40, and outputs the transaction result data to the user computer 20 based on the user's requests(S60).

For a detailed description, the server computer 30 verifies whether the user who receives the search result data from the server computer 30 through the step S50 selects and separately designates transaction items from the search results(S61).

Further, the server computer 30 decides whether the authorization requests for warning notice issues or legal actions for transaction items designated by the user are inputted from the corresponding user computer 20(S62).

As a result of the decision, if the authorization requests for the transactions are inputted from the corresponding user computer 20, the server computer 30 outputs information on authorized transaction items to the associate office computer 40 of the corresponding user and authorizes the office for the transactions(S63).

Thereafter, the server computer 30 decides whether the transaction result data based on the corresponding authorized transactions is inputted from the associate office computer 40 requested for the transaction authorization of a specific user(S64), stores the transaction results inputted from the associate office computer 40, and, at the same time, outputs the transaction results to the corresponding user computer 20 based on the user's requests for the user's verification(S65).

In the meantime, in addition to the above embodiments described in detail, Figs. 12 to 17 are flow charts for showing in detail operation processes for a network-based analogous word search technology application method according to another embodiment of the present invention(occasions used in general internet search engines).

First, the server computer 300 other languages/English-transliterates a database for web sites and web documents information to build separate fields in the database, and builds basic programs necessary for search and result outputs(S100).

5 For a detailed description, the server computer 300 other languages/English- transliterates a database for information on web sites and web documents it holds(S110), and builds separate fields for the result transliterated in the step S110(S120).

10 Further, the server computer 300 builds programs for the generations for search queries necessary for searches and search executions(S130), and, at the same time, builds output programs for user interface and navigation structures to be outputted to the user computer 200(S140).

15 After building an analogous word search engine system through the step S100, the server computer 300 verifies whether specific search terms are inputted from the specific user computer 200 communication-connected through the communication network 100 and general searches or analogous word search executions are requested based on the corresponding search terms(S200).

20 For a detailed description, the server computer 300 decides whether search terms for the use of a search engine from the communication-connected corresponding user computer 200 are inputted(S210), and, if the search terms are inputted, decides whether a user who inputs the search terms in the search engine inputs a key signal for search executions(S220).

25 As a result of the decision, if the key signal for the search terms and search executions is inputted from the corresponding user computer 200, the server computer 300 verifies whether the key signal for the search executions inputted by the user is a general search key signal or an analogous word search key signal, and prepares for the driving of the general searches or analogous word searches(S230).

After preparing for the general search driving based on the search terms and search execution key signal inputted by the user through the

step S200, the server computer 300 performs the general searches the general search engines execute with respect to specific search terms based on the requests of the user computer 200, and generates search results(S300).

5 For a detailed description, if the corresponding user selects the general searches through the step S200, the server computer 300 performs the general searches the general search engines execute based on the search terms the user inputs(S310), executes an internal ranking decision process equipped in the general search engines, and decides
10 the search data ranking(S320).

Further, the server computer 300 outputs to the corresponding user computer 200 the results searched through the steps S310 and S320 to fit into the user interface(S330).

After preparing for the analogous word search driving based on the
15 search terms and search execution key signal the user inputs during the step S200, the server computer 300 grasps the number of phonemes of the search terms the user inputs based on the requests of the user computer 200 which selects the views of the analogous word search results, generates the respective search queries for a Substitution search,
20 Blank search, Partial reverse search, and Reverse search based on search term data the user inputs, divides the kinds of search terms into English and other languages, performs the Blank search, Substitution search, Partial reverse search, and Reverse search based on the corresponding search criteria classifications at the same time, stores the
25 search results in a temporary table together with query values, and defines similarity degrees based on the similarity degree decision standard set in advance(S400).

For a detailed description, if a user selects the analogous word search through the step S200, the server computer 300 verifies whether
30 the user selecting the analogous word search selects the analogous word search with respect to website names or the whole web documents(S410). At this time, if the user does not designate a search condition of his or her own for the analogous word search, the server computer 300 performs

the analogous word search with respect to the whole web documents.

After the server computer 300 verifies whether the user selects the analogous word search with respect to the website names or the whole web documents, the server computer 300 grasps the number of phonemes of search terms the user inputs(S420), decides whether the search terms are in English, other languages/English-combined words, or other languages, and verifies a search method fit to the kind of the search terms(S430).

Thereafter, if the kind of the search terms verified in the step S430 is other languages or other languages/English-combined words, the server computer 300 other languages/English-transliterates the search terms(S440), generates the search queries for the Substitution search, Blank search, Partial reverse search, and Reverse search based on the search term data the user inputs, and, at the same time, performs the Blank search, Substitution search, Partial reverse search, and Reverse search based on the kind of the search terms and based on the corresponding search criteria classifications(S450).

Further, the server computer 300 stores the results based on the search executions of the step S450 in a temporary separate table together with query values(S460), and defines the similarity degrees of the search results based on the similarity degree decision standards set in advance(S470).

Lastly, after performing the analogous word search through the step S400, the server computer 300 outputs to the user computer 200 the analogous word search results based on the order of similarity degrees or popularity degrees which is requested by the user computer 200(S500).

For a detailed description, after performing the analogous word search for the search terms designated by the user through the step S400, the server computer 300 outputs the results of the analogous word search executions in the order of basic similarity degrees to the user computer 200 requesting the analogous word search(S510).

Thereafter, the server computer 300 decides whether the arrangements in the order of popularity degrees are selected for the

search results from the user computer 200(S520), and, if the arrangements in the order of popularity degrees are selected from the user computer 200, the server computer 300 applies to the results of the analogous word search executions, arranges, and outputs to the user
5 computer 200 the order of popularity degrees the general search engines themselves configure(S530).

INDUSTRIAL APPLICABILITY

As described above, the network-based analogous word search
10 technology application system and method have an effect in that, in case that they are applied to a system performing integrated trademark managements, they periodically monitor specific trademarks selected as a monitoring target with reference to similar trademark monitoring degrees based on the environments a user sets, notifies the scheduler
15 function of the monitoring results in the order of similarity degrees in order for the user to readily view the results, and enables the user to take integral actions with respect to trademarks in question, to thereby maximize the work efficiency to enable the least personnel to perform active trademark managements in the trademark management task for
20 the users who hold lots of trademarks.

Further, the present invention has an advantage of widening the trademark monitoring criteria since it provides the ways that can systematically monitor domain and business names frequently referred to in trademark infringements, and has an advantage of entirely monitoring
25 wide trademark criteria with respect to a trademark inputted in either English or other languages since it performs integral searches through a other languages/English transliteration process.

Further, the present invention has an advantage of maximizing users' convenience which is an essential condition of search engines,
30 since, in case that it is applied to general internet search engines, it accomplishes a search through inputting similar words once when an internet user only remembering similar words or similar pronunciations instead of exact search terms wants to search websites or web

documents with the words or pronunciations through a search engine so that there is no need for a user to repeatedly use a search engine while inputting words several times so that the desired results can be easily obtained at once to greatly reduce the search time taken in using the search engine, and the search terms the user inputs are likely words the user incorrectly knows in case that the terms are a foreign language, foreign site name, or jargon terms.

Further, the analogous word search technology according to the present invention has an advantage in that searches can be performed in both English and other languages even when a user inputs search terms in either English or other languages, since the technology transliterates the non-English languages into a similar English form and performs searches. That is, the technology has an advantage in that entire searches can be performed with respect to English or other language databases even when a user performs a search in either English or other languages with respect to search terms existing in both English and other languages, for example, hynix and 하이닉스(Korean; hynix in English letters).

In here, although the preferred embodiments of the present invention have been described, it will be understood by those skilled in the art that the present invention should not be limited to the described preferred embodiments, but various changes and modifications can be made within the spirit and scope of the present invention as defined by the appended claims.

CLAIMS

What is claims is:

5 1. A network-based analogous word search technology application system, comprising:

 a communication network for connecting plural undefined communication lines;

 plural user computers for outputting trademark monitoring request
10 data to external through analogous word searches inputted by a user communication-connected with the external through the communication network, inputting search result data from the external based on the analogous word searches for trademarks the user holds, outputting warning notice authorization and legal action authorization data inputted
15 by the user who has confirmed the search result data to the external, and inputting the transaction result data based on the transaction authorization request of the user from the external;

 a server computer for transliterating a trademark database thereof from other languages to English to build a database as well as
20 simultaneously building basic programs necessary for search and result outputs, obtaining and storing as fundamental monitoring data of a management program trademark data a user holds based on the information of the user inputted from the user computer communication-connected through the communication network, setting monitoring
25 environments by entire and detailed trademarks, and defining search queries by level based on the fundamental monitoring data, simultaneously obtaining nonuse words and primary key words, deciding the kinds of the fundamental monitoring data and the search terms of primary key words as three kinds of English, other languages, and
30 English/other languages to carry out depending on a search criteria classifications, outputting analogous word search result data to the user computer based on a request of a user, requesting transaction authorizations to an associate office with which a user deals according to

requests for the warning notice issue and legal action authorizations of the user checking the search results, and storing and simultaneously outputting transaction result data of the associate office to the user computer; and

5 an associate office computer for inputting from the server computer related data based on the requests of the transaction authorizations from the user holding specific trademarks, performing the corresponding transactions, and outputting to the server computer result data based on the transaction authorizations.

10

2.. The system as claimed in claim 1, further comprising a domain name institution computer for 50 for outputting to the server computer search results of information on domain names currently registered according to a domain name search request related to a specific trademark from the server computer.

15

3. The system as claimed in claim 1, wherein the server computer includes:

a data input unit for inputting basic programs necessary for search and result outputs related to analogous word searches and trademarks data periodically updated;

20

a main controller for controlling the storage of the basic programs necessary for search and result outputs and trademark data inputted through the data input unit; the other languages/English transliteration of a trademark database it holds; the generation of trademark data a user holds based on information on the user communication-connected; the monitoring environment settings by entire and detailed trademarks and the definitions of analogous word search queries based on fundamental monitoring data; the generation of nonuse words and primary key words; the executions of analogous word searches based on the search criteria classifications of trademarks by deciding the search term kinds of the fundamental monitoring data and primary key words as the three kinds of English, other languages, and other languages/English; the outputs of

25

30

analogous word search result data to the user computer; the outputs of data necessary to perform authorized transactions to the specific associate office computer based on the transactions authorized by a user having checked analogous search results; and the storage of the result data of the authorized transactions inputted from the corresponding associate office computer; and the outputs of the result data to the user computer;

a database for storing trademark data inputted through the data input unit based on the controls of the main controller, trademark data other languages/English-transliterated through the main controller, and authorized transaction result data inputted from the associate office computer; and

a communication controller for inputting analogous word search request data with the user computer communication-connected through the communication network based on the controls of the main controller, outputting search result data, inputting authorized transaction request data, outputting result data based on an authorized transaction, performing data inputs and outputs of data according to an authorized transaction with the associate office computer based on the transaction authorized by a user.

4. The system as claimed in claim 1, wherein the server computer performs, if a business name search request related to a specific trademark is inputted from the user computer, analogous word searches based on the user's request, and outputs analogous word search result data to the corresponding user computer.

5. A network-based analogous word search technology application system, comprising:

a communication network for connecting plural undefined communication lines, and performing data communications therebetween;

a user computer for externally outputting analogous word search request data inputted by a user communication-connected with external

through the communication network, and externally inputting search result data obtained from general searches or analogous word searches based on search terms inputted by a user; and

5 a server computer for other languages/English-transliterating a database for websites and web documents information it holds to build a database therefor as well as build basic programs necessary for searches and result outputs simultaneously, performing on general search engines searches for specific search terms according to general search execution requests inputted from the user computer communication-connected
10 through the communication network, obtaining search results, and outputting the specific search terms from the user and the search result to the corresponding user computer, or grasping the number of phonemes of search terms inputted by a user according to specific search terms and a search execution request inputted from the user computer, obtaining
15 search queries for analogous word searches based on corresponding search term data, classifying the kinds of search terms into English or other languages, performing the analogous searches based on corresponding search criteria classifications, and outputting an analogous word search result to the user computer based on the order of similarity
20 degrees or popularity degrees.

6. The system as claimed in claim 5, wherein the server computer includes:

25 a data input unit for inputting the basic programs necessary for searches and result outputs related to analogous word searches;

a main controller for controlling the storage of basic programs necessary for searches and result outputs inputted through the data input unit, the other languages/English transliterations of information on websites and web documents it holds, the general search executions
30 according to specific search terms and execution requests for general searches inputted from the user computer, the generations of search queries for analogous word searches based on search term data inputted by a user according to specific word and analogous word search

execution requests inputted from the user computer, the executions for the analogous word searches based on corresponding search criteria classifications by classifying the kinds of search terms into English or other languages, and the outputs of the analogous word searches based on the order of similarity degrees or popularity degrees that a user selects;

a database for storing information on web sites and web documents inputted through the data input unit according to the controls of the main controller, and storing web site and web document data other languages/English-transliterated in the main controller; and

a communication controller for inputting search request data for general searches and analogous word searches and outputting search result data from and to the user computer communication-connected through the communication network according to the controls of the main controller.

7. The system as claimed in claim 5, wherein a process transliterating other languages into English is omitted when the server computer other languages/English-transliterates a database of information on web sites and web documents it holds, in case that the language is one using the English alphabet.

8. The system as claimed in claim 1 or claim 5, wherein the analogous word searches are Substitution search, Blank search, Partial reverse search, and Reverse search.

9. A network-based analogous word search technology application method, comprising steps of:

(1) other languages/English-transliterating a trademark database, building separate fields into a database, and building basic programs necessary for searches and result outputs in a server computer;

(2) generating database trademark data a user holds based on information inputted from a user computer communication-connected

through a communication network, storing the trademark data as fundamental monitoring data for management programs, and setting monitoring environments by entire and detailed trademarks, in the server computer;

5 (3) defining by levels search queries for respective Substitution search, Blank search, Partial reverse search, and Reverse search based on the fundamental monitoring data with reference to nonuse words and primary key words;

10 (4) deciding the kinds of the fundamental monitoring data and primary key word search terms as the three kinds of English, Other languages and other languages/English, performing Exact match search, Key word search, Blank search, Substitution search, Partial reverse search, and Reverse search based on corresponding search criteria classifications at the same time, storing the search results in a separate
15 temporary table together with index keys and related information or data itself, and defining the similarity degrees based on a similarity degree decision standard set in advance, in the server computer;

(5) outputting to the corresponding user computer statistics pages, entire results pages, and detailed results pages based on the analogous
20 search results according to the requests of the user; and

(6) requesting the executions of authorized transactions to an associate office computer of the corresponding user based on the requests for authorized warning notice issue and legal action transactions of the user verifying search results, storing transaction results on the
25 authorized transactions inputted from the corresponding associate office computer, and outputting the transaction result data to the user computer based on the user's requests, in the server computer.

10. The method as claimed in claim 9, wherein the step(1)
30 includes the steps of:

(1-1) transliterating, based on a separate table, other language portions of other language trademarks and other languages/English-combined trademarks into English, and removing special characters

within trademark data;

(1-2) building the results transliterated in the step(1-1) into a separate field of a database in the server computer;

5 (1-3) building programs for generations of search queries necessary for searches and for search executions in the server computer;

(1-4) deciding basic search levels and changeable search levels to be fixed based on the number of phonemes of a trademark a user holds, and defining search levels by the number of phonemes of search terms,
10 in the server computer; and

(1-5) building output programs for user interface and navigation structures to be outputted to the user computer from the server computer.

11. The method as claimed in claim 9, wherein the step(2)
15 includes steps of:

(2-1) reading in basic personal history information of the user based on information inputted from the user computer, and generating trademark data the user holds, in the server computer;

(2-2) storing the generated trademark data the specific user holds
20 as fundamental monitoring data for management programs;

(2-3) checking a monitoring target setting basically set with respect to the entire trademarks the user holds, checking a monitoring level setting, verifying the changes of nonuse words or nonuse applicant names, and setting monitoring environments, based on the trademark
25 monitoring condition of entire trademarks the user decides, in the server computer; and

(2-4) verifying the detailed setting changes of the monitoring target, monitoring levels, the kinds of nonuse words, and primary key words by trademark cases the user holds, and setting monitoring environments,
30 based on the trademark monitoring condition of detailed trademarks the user decides, in the server computer.

12. The method as claimed in claim 11, wherein, in the steps 2-3

and 2-4, the server computer verifies whether monitoring criteria are included for domain names and business names with respect to the trademarks the user holds, and sets the monitoring environments based on the trademark monitoring condition of entire trademarks or the trademark monitoring condition of detailed trademarks.

13. The method as claimed in claim 9, wherein the step(3) includes steps of:

(3-1) performing similar consonant substitutions, similar vowel substitutions, substitutions of other languages/English-transliterated other languages into simple English words in case that abbreviated words such as English alphabet and English numbers exist in the other languages/English-transliterated other languages, and substitutions of words basically convertible between other languages and English in meaning in order to generate Substitution search queries for searches, of basic monitoring trademarks according to the trademark monitoring environments set in the step(2), in the server computer;

(3-2) after the generation of the Substitution search queries, removing each phoneme one by one from the basic monitoring trademarks, performing an "AND" search for the arrangements of the remaining phonemes, and generating a blank search query in order to perform a search for phoneme blanks;

(3-3) after the generation of the blank search query, generating a partial reverse search query in order to obtain a pattern-matched result corresponding to a range of 60% to 100% in a state that maintains phonemes arrangements in the arrangements by phonemes;

(3-4) after the generation of the partial reverse search, generating a reverse search query to make results of a key word search for the pool of the trademark database to the basic monitoring trademark; and

(3-5) after the generation of the reverse search query, grasping the number of phonemes for primary key words and generating search queries of the steps (3-1) to (3-4), in case that a corresponding user sets primary key words in the step(2).

14. The method as claimed in claim 9, wherein the step(4) includes steps of:

(4-1) if the generation of a search query for the basic monitoring trademarks through the step(3) is completed, verifying the number of phonemes for the monitoring trademarks(S41) in the server computer;

(4-2) after the verification of the number of phonemes for the basic monitoring trademarks, verifying the search environment setting content such as search levels, nonuse words, nonuse applicant names, primary key words, and so on, which are set by a user for corresponding trademarks;

(4-3) verifying whether the basic monitoring trademarks and the search terms of set primary key words are in other languages, other languages/English-combined words, English, or both of other language and English having words, and verifying search criteria based on the kinds of the corresponding search terms;

(4-4) in case that other language portion is included in search terms or primary key words of the basic trademarks in the step(4-3), other languages/English-transliterating and temporarily storing the search terms themselves;

(4-5) performing Exact match search, Key word search, Substitution search, Blank search, Partial reverse search, and Reverse search at the same time based on the search queries set in the step(3);

(4-6) storing the results of the search execution of the step(4-5) in a separate temporary table together with index keys and related information or data itself;

(4-7) giving similarity degrees based on the difference the number of phonemes of the search results from that of the basic monitoring trademarks in the temporarily stored table in the step(4-6).

15. The method as claimed in claim 14, further comprising steps of, after the step(4-7),

(4-8) selectively applying search queries suitable for domain name

searches out of search queries to be performed in the step(4-5) only in case that a user additionally selects the domain name as monitoring criteria in the step(2), performing searches through a meta search engine designed compatible with a domain name search engine provided by domain name institutions, and storing the search results in a temporary table together with index keys and related information or data itself; and

(4-9) applying the search queries used in the step(4-5) only in case that a user additionally selects business names as monitoring criteria in the step(2), performing searches through a business name database built therein, and storing search results together with index keys and related information or data itself.

16. The method as claimed in claim 9, wherein the step(5) includes the steps of:

(5-1) after performing analogous word searches for the basic monitoring trademarks through the step(4), configuring statistics pages, which are displayed when the user clicks the basic monitoring trademarks, with the number of search results categorized by the kind of search method;

(5-2) configuring pages of entire search results in the order of similarity degrees viewed in case that a user clicks to view the entire search results;

(5-3) configuring detailed information pages by trademarks viewed in case that a user clicks to view detailed information on respective results of the monitoring trademarks searched;

(5-4) after the server computer 30 configures output pages based on the analogous word searches with respect to the basic monitoring trademarks, deciding whether an output of monitoring result data is requested from a specific user computer requesting corresponding trademark monitoring; and

(5-5) if the output of the monitoring result data is requested from the corresponding user computer, outputting from the server computer to the corresponding user computer any of statistics pages of the number of

searches categorized by each search method, entire search result pages, and detailed information pages by trademarks that the user requests.

17. The method as claimed in claim 9, wherein the step(6)
5 includes steps of:

(6-1) selecting and separately designating transaction items from the search results by a user who receives the search result data from the server computer through the step(5);

10 (6-2) deciding in the server computer whether the authorization requests for warning notice issues or legal actions for transaction items designated by the user are inputted from the corresponding user computer;

(6-3) if the authorization requests for the transactions are inputted from the corresponding user computer, outputting information on
15 authorized transaction items from the server computer to an computer of associate law office trading with the corresponding user, and authorizing the office computer for the transactions;

(6-4) deciding whether the transaction result data based on the corresponding authorized transactions is inputted from the computer of
20 the associate office requested for the transaction authorization of a specific user; and

(6-5) storing the transaction results inputted from the associate office computer, and, at the same time, outputting the transaction results to the corresponding user computer based on the user's requests, in the
25 server computer.

18. A network-based analogous word search technology application method, comprising steps of:

30 (A) other languages/English-transliterating a database for web sites and web documents information to build separate fields in the database, and building basic programs necessary for search and result outputs;

(B) verifying whether specific search terms are inputted from a

specific user computer communication-connected through a communication network and general searches or analogous word search executions are requested based on the corresponding search terms;

(C) performing, in the server computer, the general searches the general search engines execute with respect to specific search terms based on the requests of the user computer, and generating search results;

(D) grasping, in the server computer, the number of phonemes of the search terms the user inputs based on the requests of the user computer which selects the views of the analogous word search results, generating the respective search queries for Substitution search, Blank search, Partial reverse search, and Reverse search based on search term data the user inputs, dividing the kinds of search terms into English and other languages, performing Blank search, Substitution search, Partial reverse search, and Reverse search based on corresponding search criteria classifications at the same time, storing the search results in a temporary table together with query values, and defining similarity degrees based on the similarity degree decision standard set in advance; and-

(E) outputting, in the server computer, to the user computer the analogous word search results based on the order of similarity degrees or popularity degrees which is requested by the user computer.

19. The method as claimed in claim 18, wherein the step(A) includes steps of:

(A-1) other languages/English-transliterating a database for information on web sites and web documents the server computer holds;

(A-2) building in the server computer separate fields for the results converted in the step(A-1);

(A-3) building programs for the generations for search queries necessary for searches and for search executions; and

(A-4) building in the server computer output programs for user interface and navigation structures to be outputted to the user computer.

20. The method as claimed in claim 18, wherein the step(B) includes steps of:

(B-1) deciding in the server computer whether search terms for the use of a search engine from the corresponding user computer are inputted

(B-2) deciding whether a user who inputs the search terms in the search engine inputs a key signal for search executions; and

(B-3) verifying whether the key signal for the search executions inputted by the user is a general search key signal or an analogous word search key signal, and prepares for search driving.

21. The method as claimed in claim 18, wherein the step(C) includes steps of:

(C-1) if the corresponding user selects the general searches through the step(B), performing in the server computer the searches the general search engines execute based on the search terms the user inputs;

(C-2) executing an internal ranking order decision process equipped in the general search engines, and deciding the search data order; and

(C-3) outputting to the corresponding user computer the results searched through the steps (C-1) and (C-2) to fit into the user interface.

22. The method as claimed in claim 18, wherein the step(D) includes steps of:

(D-1) verifying whether the user selecting the analogous word search through the step(B) selects the analogous word search with respect to websites or the whole web documents;

(D-2) after verifying the analogous word search with respect to the websites or the web documents, grasping the number of phonemes of search terms the user inputs;

(D-3) deciding whether the search terms are in English, other

languages/English-combined words, or other languages, and verifying a search method fit to the kind of the search terms;

(D-4) if the kind of the search terms verified in the step(D-3) is other languages or other languages/English-combined words, other languages/English-transliterating the search terms themselves in the server computer,

(D-5) generating the search queries for Substitution search, Blank search, Partial reverse search, and Reverse search based on the search term data the user inputs, and then performing Blank search, Substitution search, Partial reverse search, and Reverse search based on the kind of the search terms and based on the corresponding search criteria classifications;

(D-6) storing the results based on the search executions of the step(D-5) in a temporary separate table together with query values; and

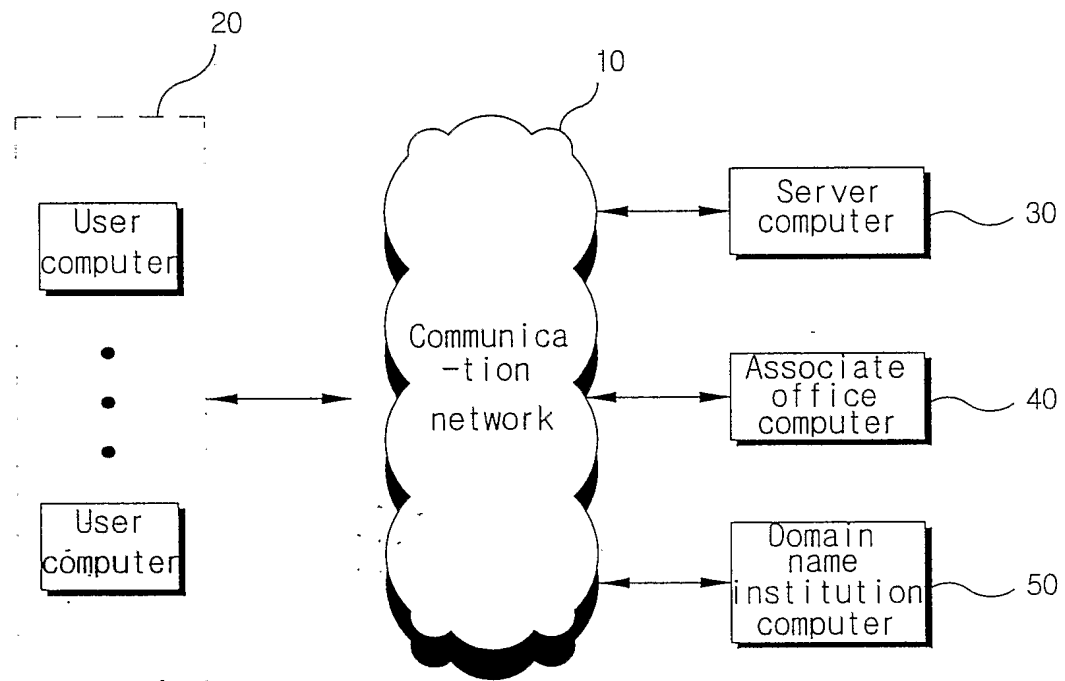
(D-7) defining in the server computer the similarity degrees of the search results based on the similarity degree decision standards set in advance.

23. The method as claimed in claim 18, wherein the step(E) includes steps of:

(E-1) after performing the analogous word search for the search terms designated by the user through the step(D), outputting in the server computer the results of the analogous word search executions in the order of basic similarity degrees to the user computer 200 requesting the analogous word search;

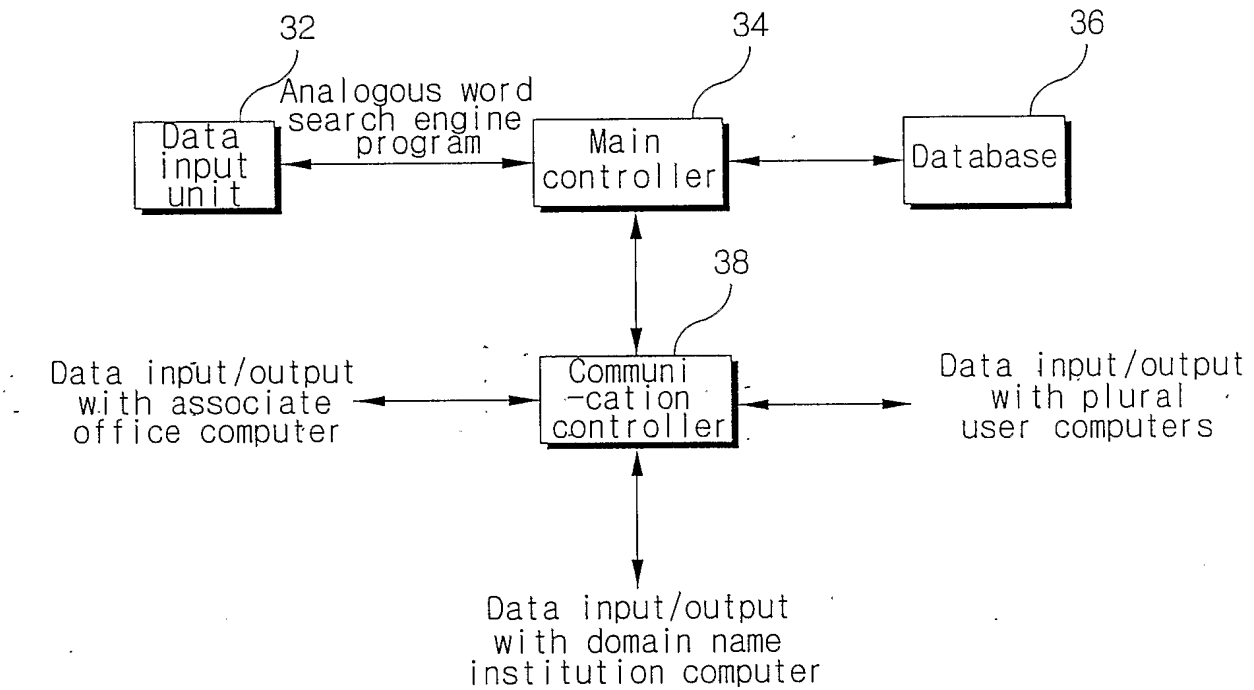
(E-2) deciding whether the arrangements in the order of popularity degrees are selected for the search results from the user computer; and

(E-3) if the arrangements in the order of popularity degrees are selected from the user computer, applying to the results of the analogous word search executions, arranging, and outputting to the user computer 200 the order of popularity degrees the general search engines themselves configure.

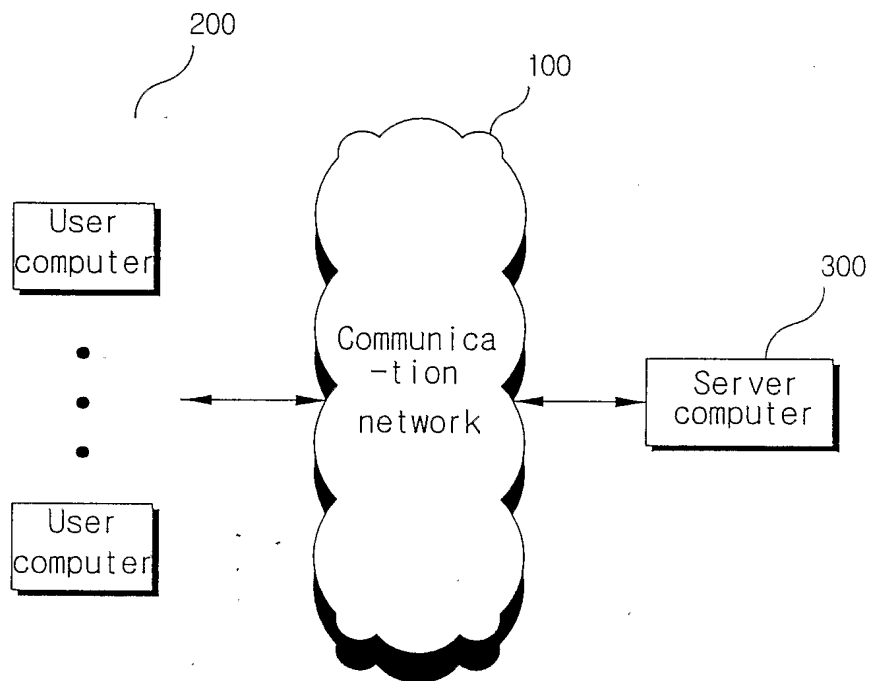
1/17
Fig 1

2/17

Fig 2

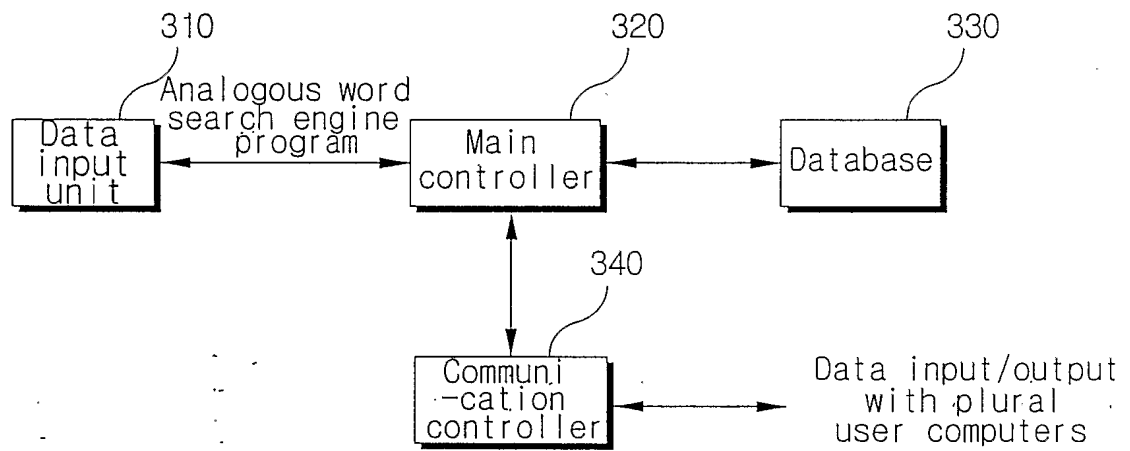


3/17
Fig 3



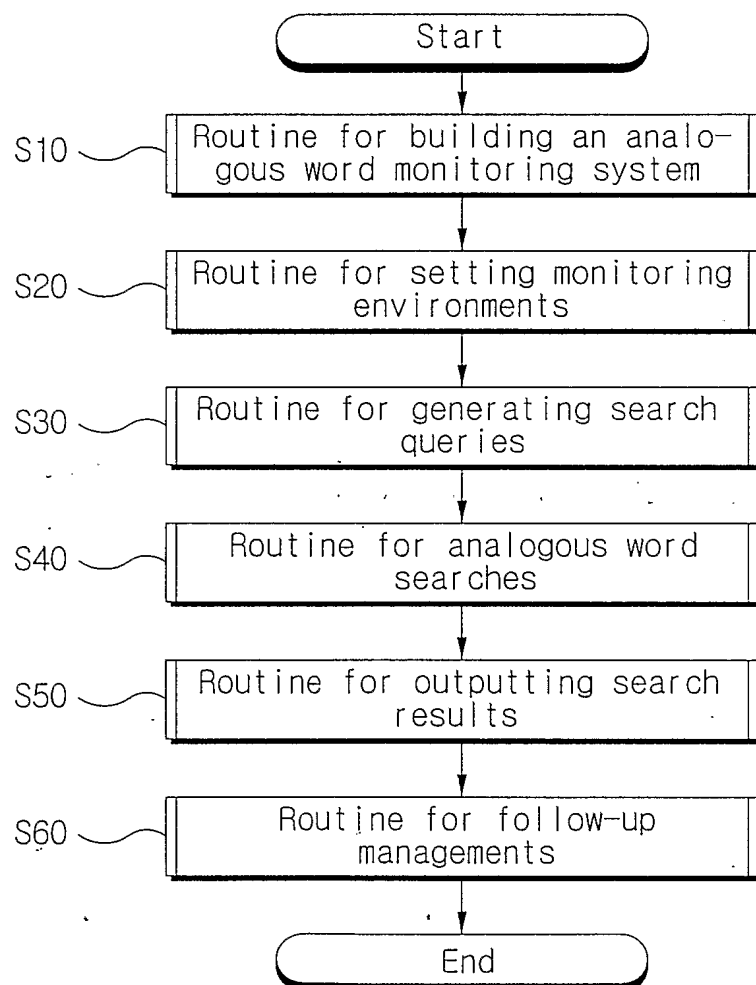
4/17

Fig 4



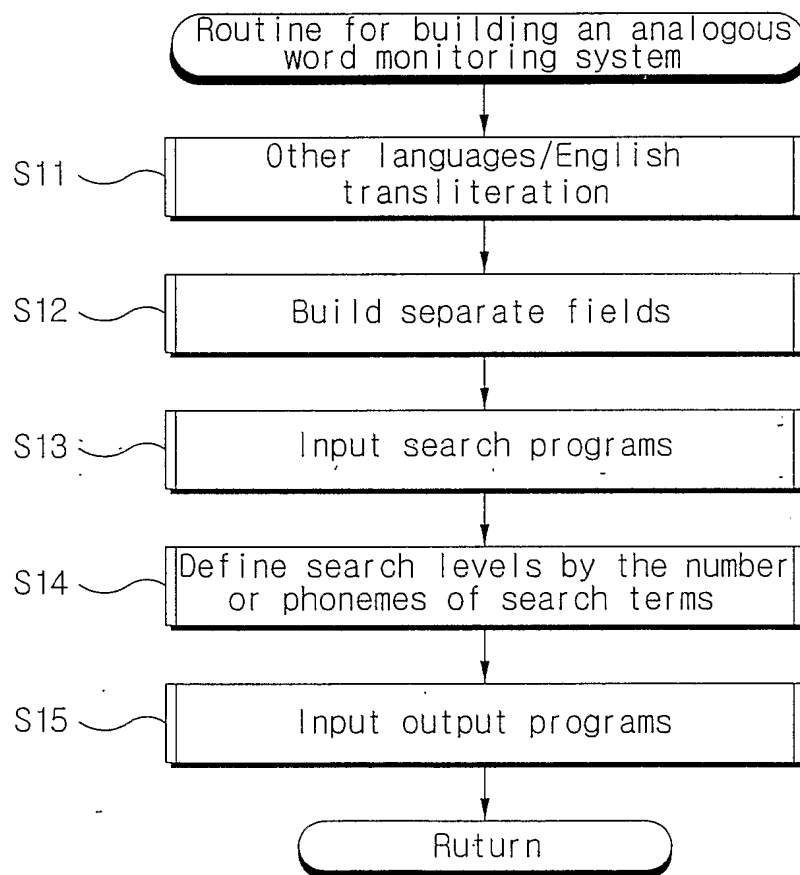
5/17

Fig 5



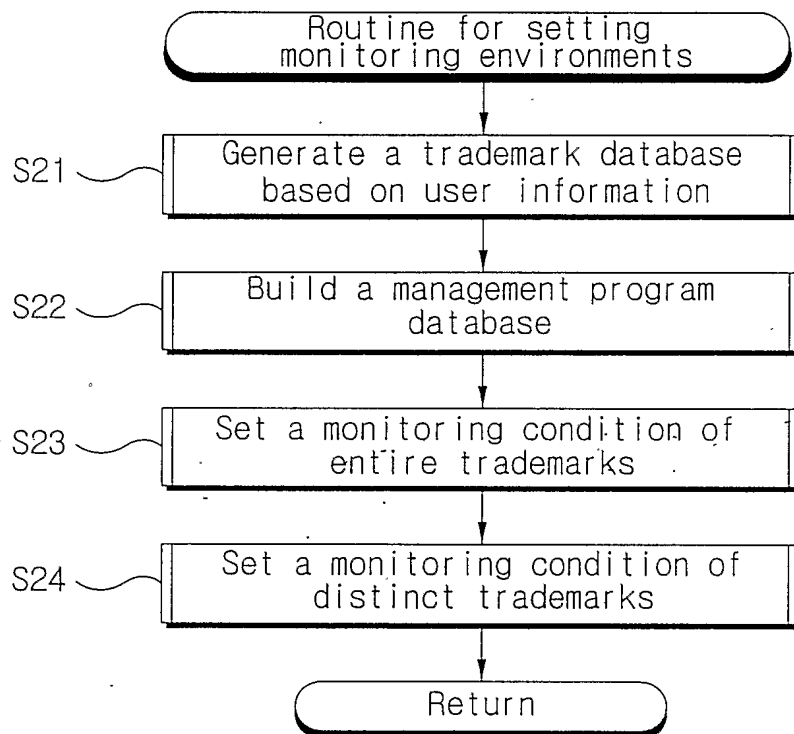
6/17

Fig 6



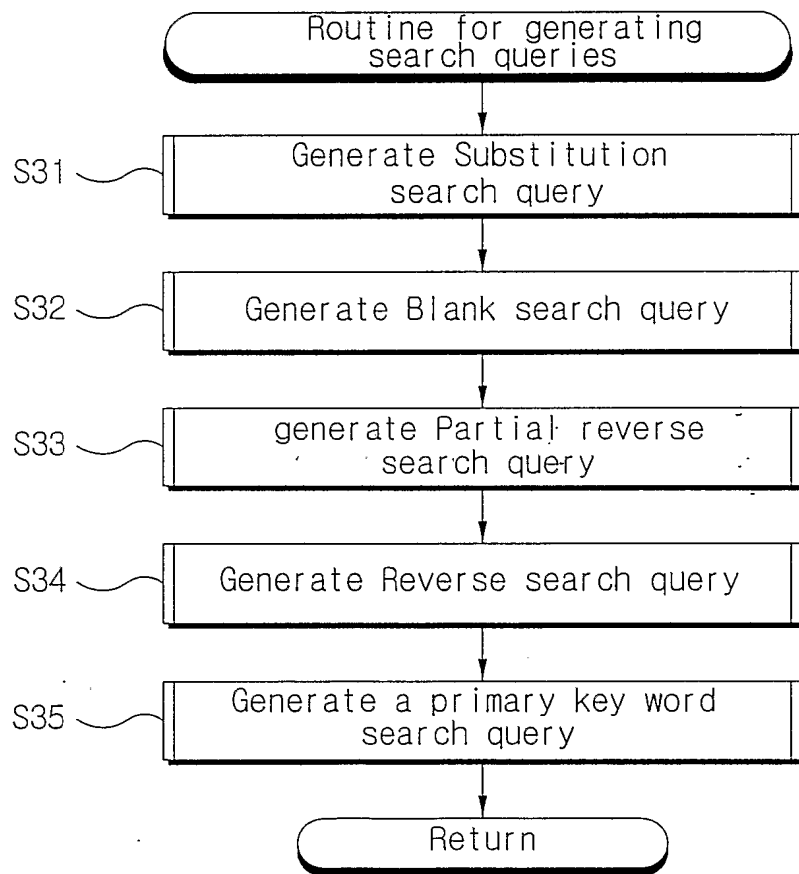
7/17

Fig 7

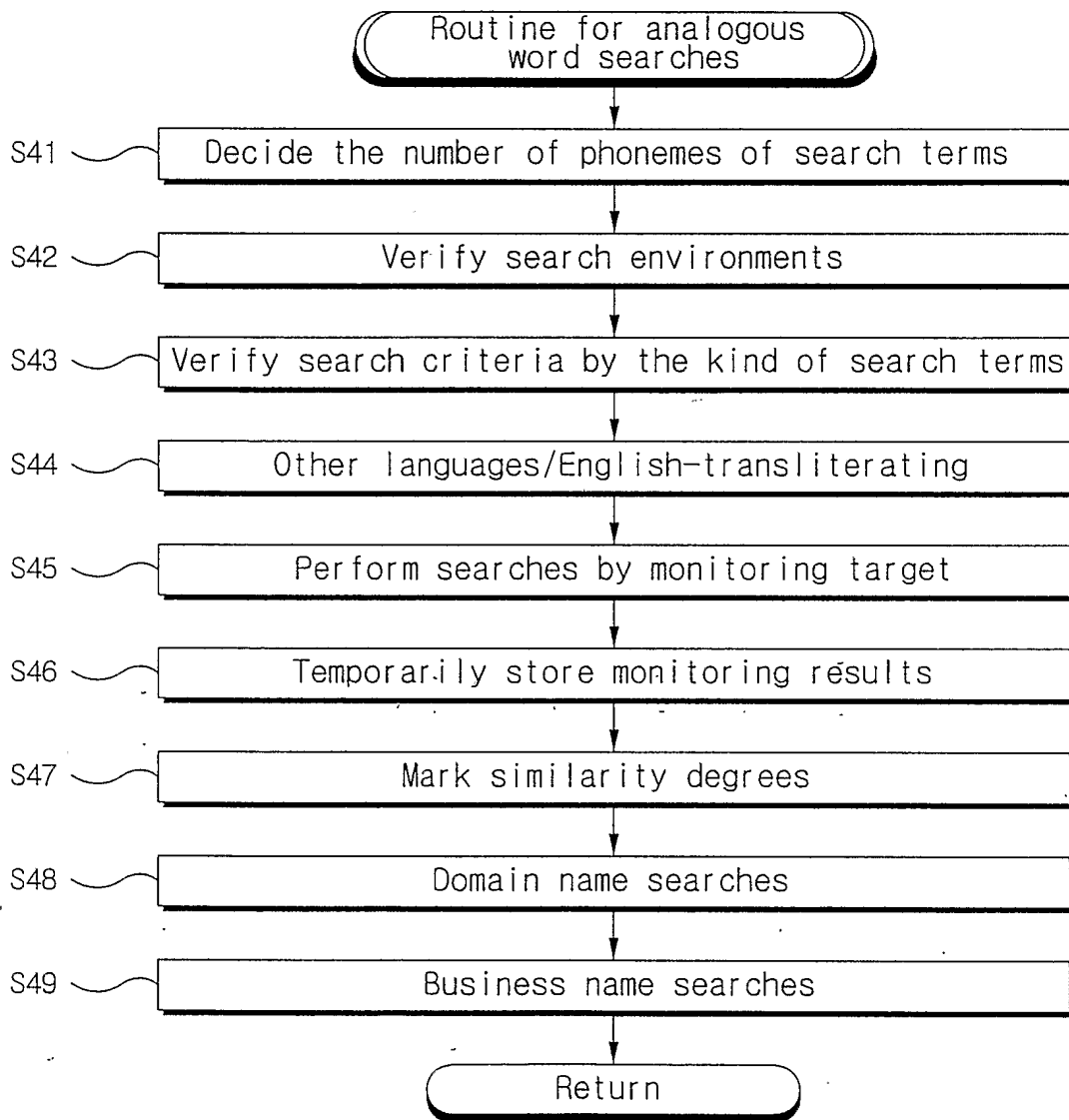


8/17

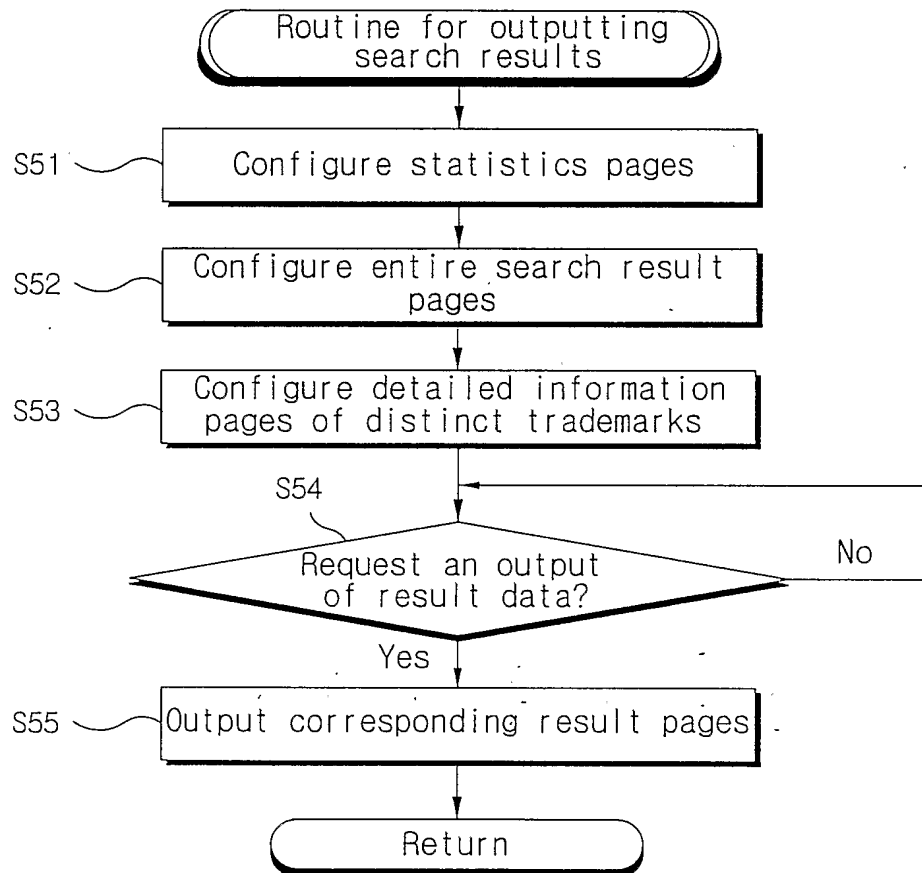
Fig 8

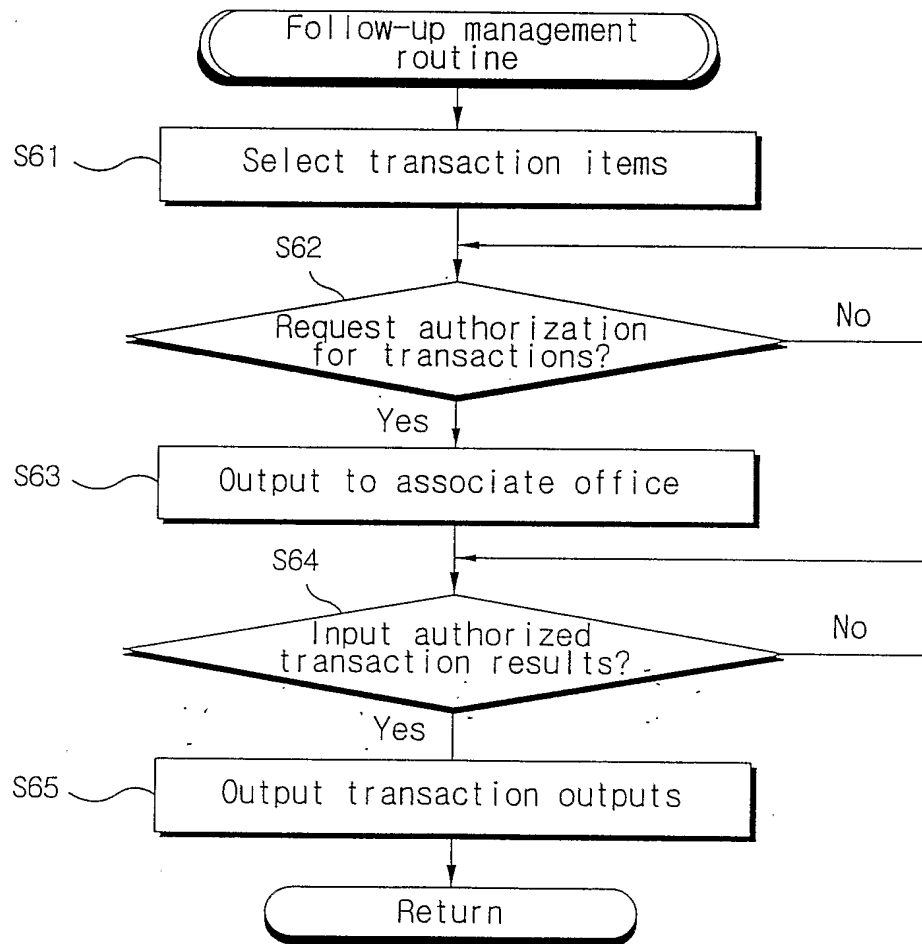


9/17
Fig 9

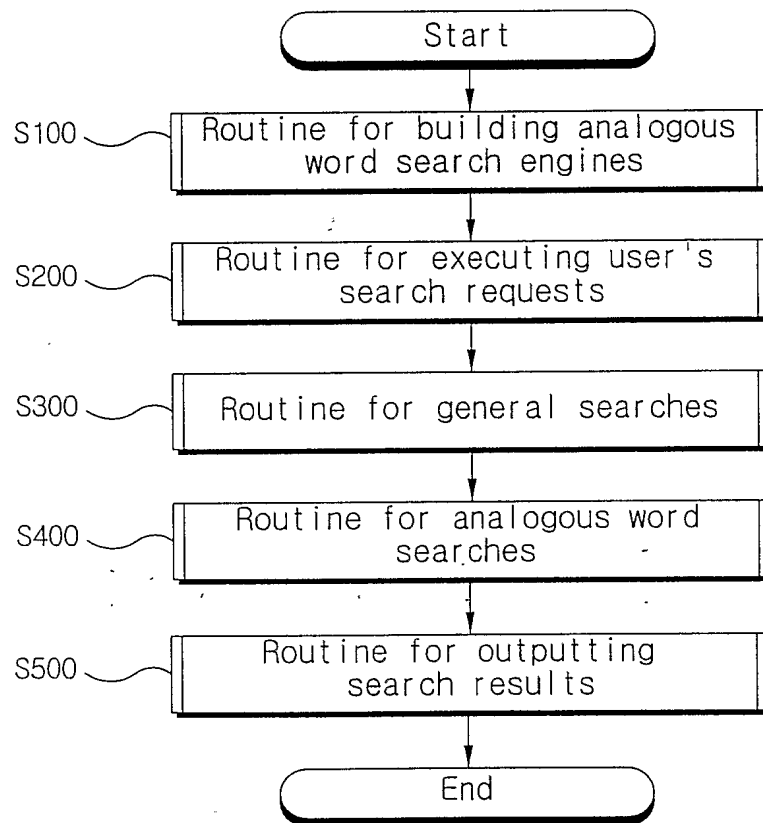


10/17
Fig 10



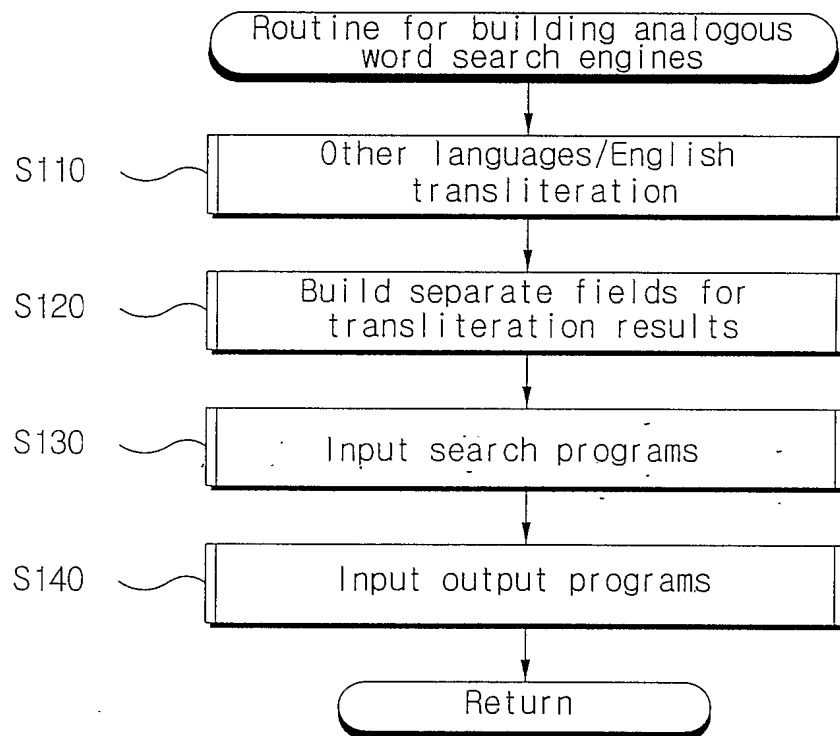
11/17
Fig 11

12/17
Fig 12



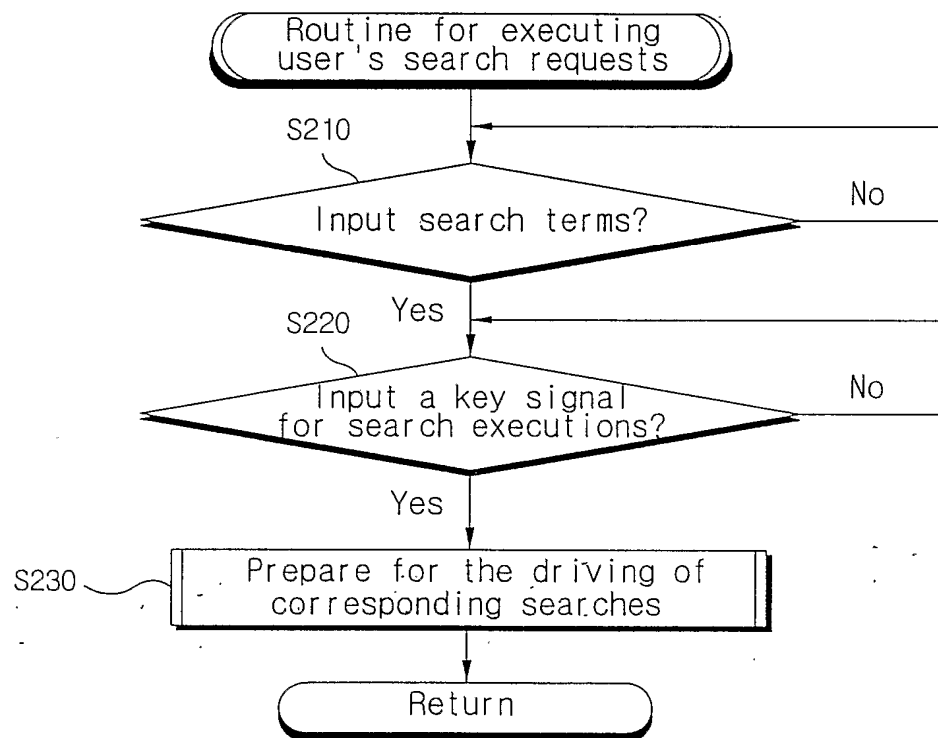
13/17

Fig 13



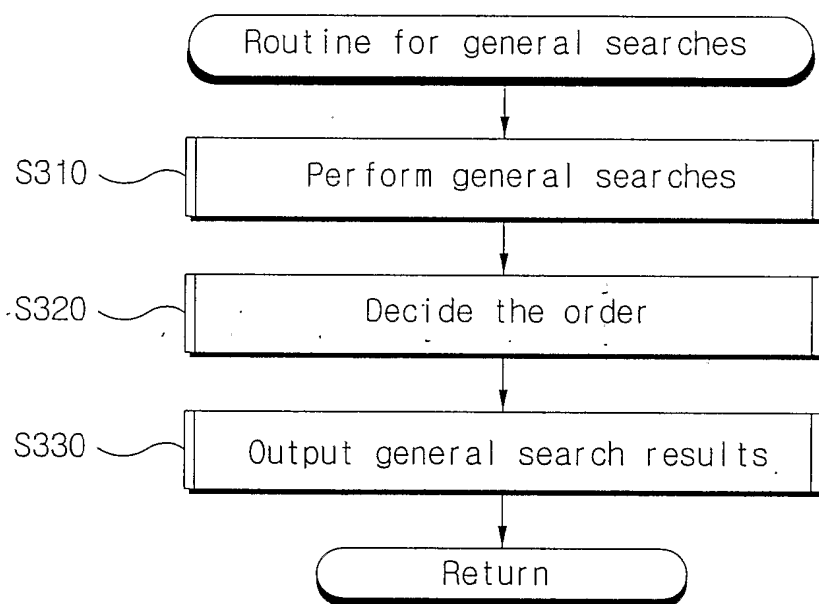
14/17

Fig 14

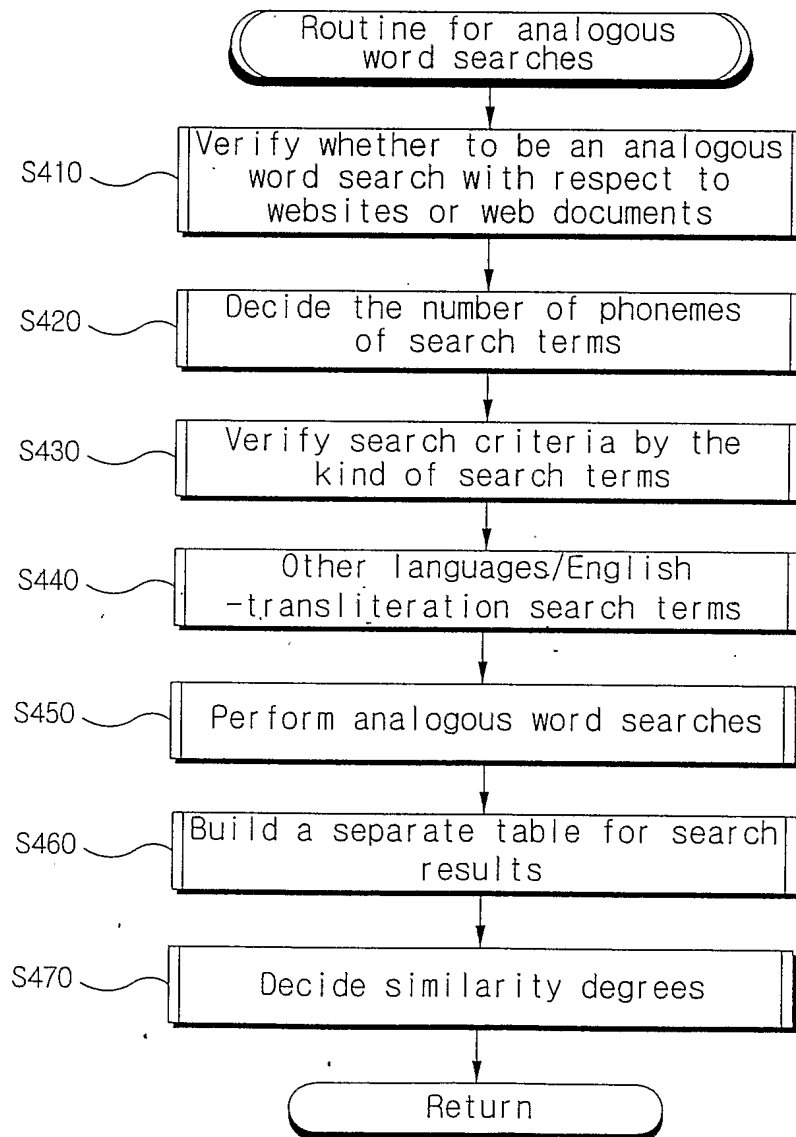


15/17

Fig 15

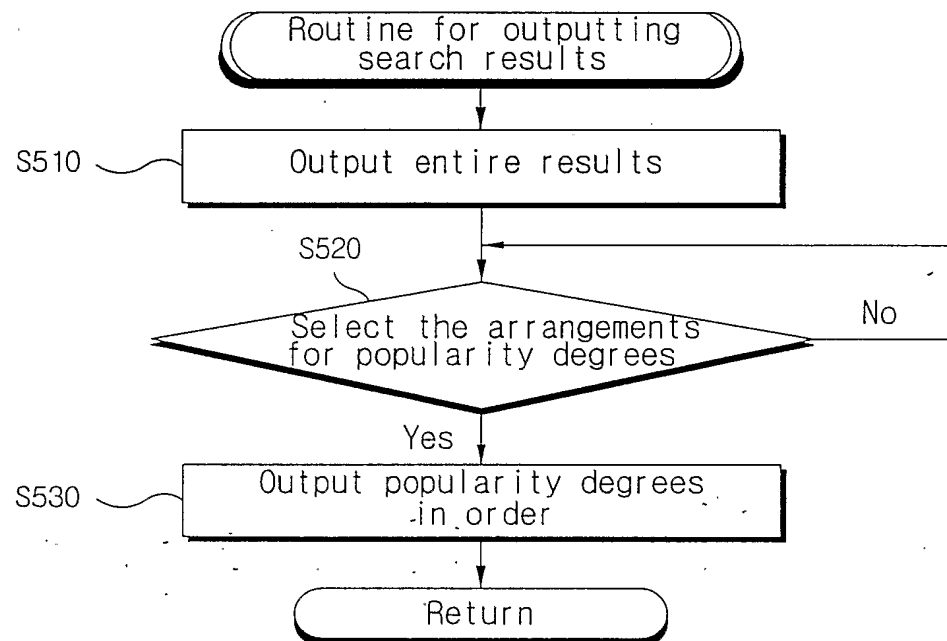


16/17
Fig 16



17/17

Fig 17



INTERNATIONAL SEARCH REPORT

International application No.

PCT/KR02/02090

A. CLASSIFICATION OF SUBJECT MATTER**IPC7 G06F 17/30**

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7 G06F 15/* G06F 17/*

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

KOREAN PATENTS AND APPLICATIONS FOR INVENTIONS SINCE 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPI, PAJ "TRADEMARK""DOMAIN""THESAURUS""SEARCH""RETRIEVE"

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP 2000-222410 (MATSUSHITA DENKI CO) 11 AUGUST 2000 see the whole document	1-23
Y	JP 05-89181 (RESEARCH PRO CO) 9 APRIL 1993 see the whole document	1-23
Y	US 5,926,811A (LEXIS-NEXIS) 20 JULY 1999 see the whole document	10-23
Y	KR 1999-0051743 (ETRI) 5 JULY 1999 see the whole document	10-23
P,Y	KR 2003-0010191 (KIM, WONJUN) 5 FEBURARY 2003 see the whole document	1-23
P,Y	KR 2002-0006339 (AIRSPIDR CO) 19 JANUARY 2002 see the whole document	1-23

☐ Further documents are listed in the continuation of Box C.☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

28 MARCH 2003 (28.03.2003)

Date of mailing of the international search report

28 MARCH 2003 (28.03.2003)

Name and mailing address of the ISA/KR

Korean Intellectual Property Office
920 Dunsan-dong, Seo-gu, Daejeon 302-701,
Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

SEO, Hawthorne

Telephone No. 82-42-481-5670

